

**AN UNUSUAL NEW SPECIES OF *BARYSCAPUS* FÖRSTER  
(HYMENOPTERA: EULOPHIDAE: TETRASTICHINAE)  
FROM NORTH AMERICA**

K. SUREKHA AND JOHN LASALLE

Indian Agricultural Research Institute, New Delhi, 110012, India; and  
International Institute of Entomology,  
(An Institute of CAB INTERNATIONAL),  
56 Queen's Gate, London, SW7 5JR, UK

*Abstract.*—*Baryscapus megos*, a new species of tetrastichine Eulophidae, is described and illustrated. This species is unusual in having a very large mouth opening. A key is presented to separate it from other species of North American Tetrastichinae with such a large mouth.

---

LaSalle (1994) provided a key to North American genera of Tetrastichinae which included a single genus (and species) with an enlarged mouth opening, *Exastichus odontos* LaSalle. An additional species of Tetrastichinae with a large mouth opening, *Kocaagizus pirireisi* Doğanlar was described from North America by Doğanlar (1993). This genus was not included in LaSalle's key, however it was briefly discussed in a note added while in press (LaSalle, 1994).

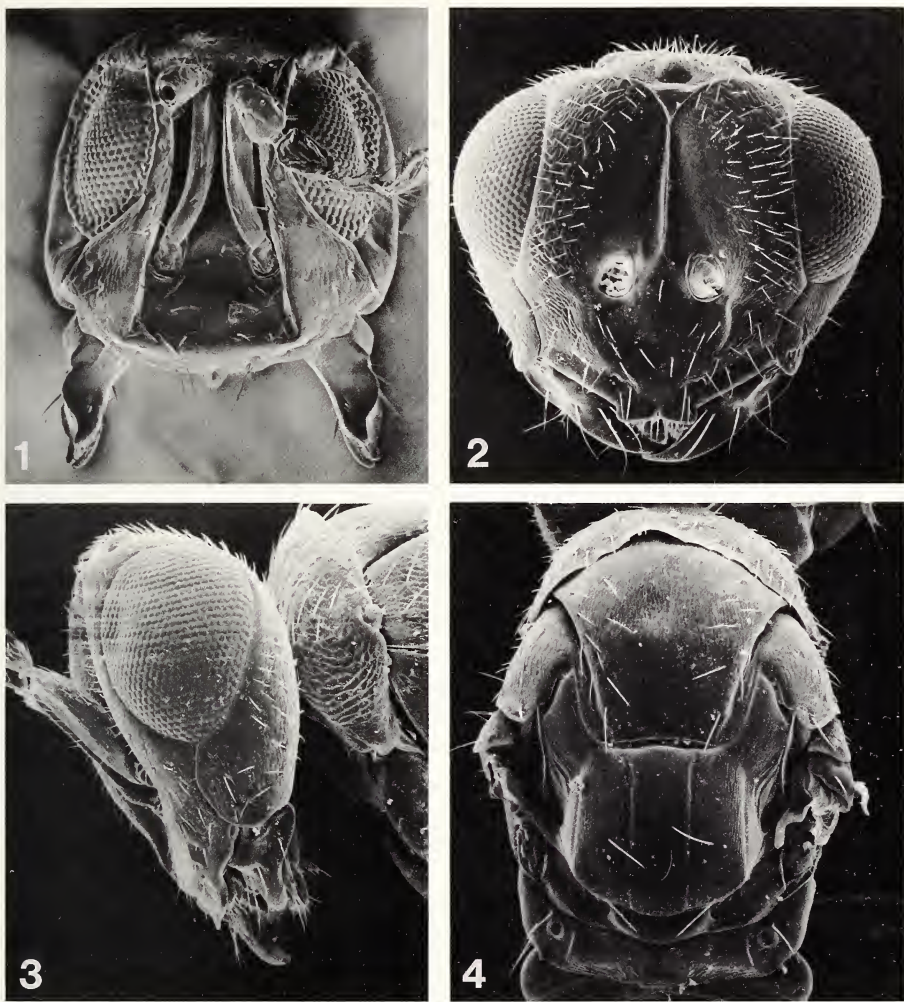
*Baryscapus megos* n. sp. is the third species of North American Tetrastichinae known to have an enlarged mouth opening, and the first species of the genus *Baryscapus*. This description is necessary because current generic keys for North American Tetrastichinae will have to be slightly modified to accommodate this new species.

Morphological terminology follows Graham (1987) and LaSalle (1994). Abbreviations for Museums are as follows: BMNH—The Natural History Museum, London, UK; CNC—Canadian National Collection of Insects and Arachnids, Ottawa, Ontario, Canada; IARI—National Pusa Collection of Insects, Indian Agricultural Research Institute, New Delhi, 110012, INDIA; UCR—University of California, Riverside, California, USA; USNM—The U.S. National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

***Baryscapus megos*, new species**  
(Figs. 2–7)

**Diagnosis.** Mouth opening broad, 3.0–3.5 times wider than malar space (Fig. 2); clypeus produced into two large lobes; mandible large. Malar groove curved. Mesoscutum with 6–12 adnotaular setae, in more than a single row. Median groove on mesoscutum distinct. Callus with 4 setae. Submarginal vein with 2 setae.

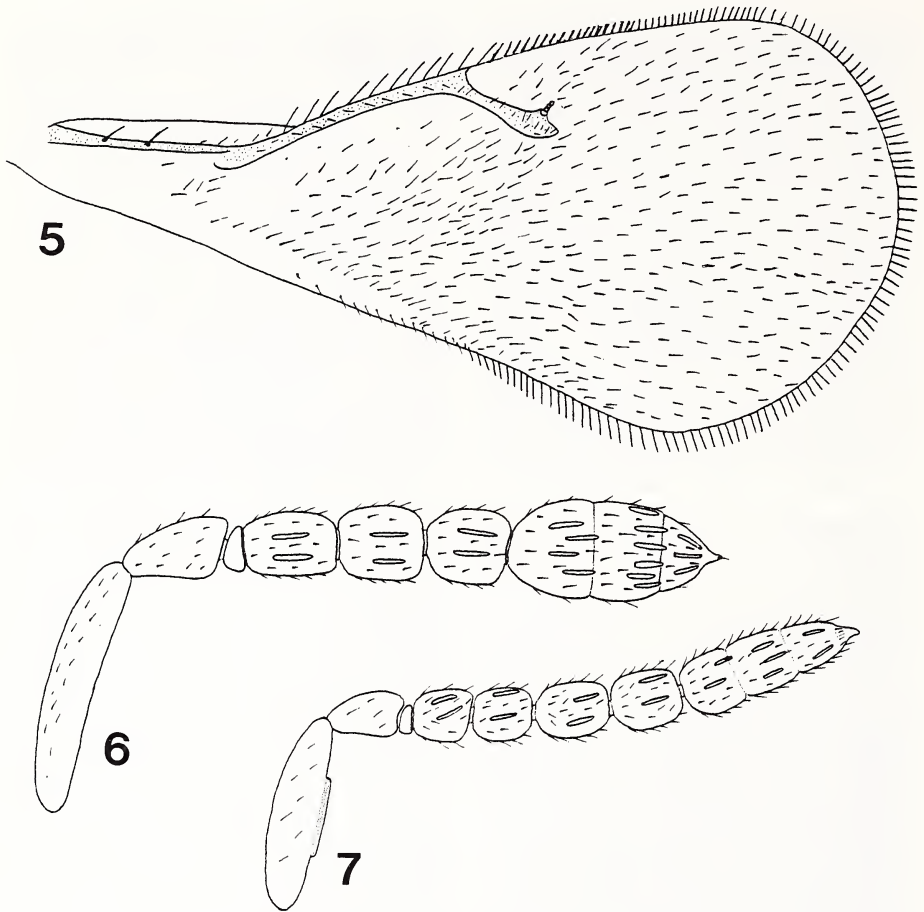
**Female.** Length to apex of last tergite 1.4–1.75 mm. Head, mesosoma and gaster ranging from dull metallic blue to brown with metallic blue shine, the mesosoma dorsally more distinctly metallic than other parts. Lower face with yellow streak below torulus; ventral margin of face and clypeus yellow to brown; mandible brownish yellow; antenna yellowish brown. Coxae and femora brown; apex of femora,



Figs. 1-4. 1. *Exastichus odontos* LaSalle ♀, face. 2-4. *Baryscapus megos* n. sp. ♀: 2, head, frontal view; 3, head, side view; 4, mesosoma, dorsal view.

tibiae and tarsi pale yellow; tibiae may be slightly darkened. Wing veins pale yellow, setae brown. Setae on face, antenna and body yellow.

**Head** (Figs. 2-3) 1.05-1.15 times broader than high in facial view. Malar groove curved, malar space about 0.38-0.45 eye height. Distance between posterior ocelli about twice as long as distance from posterior ocellus to eye margin. Clypeus distinctly produced, incised medially, with two large lobes. Mouth opening 3.0-3.5 times as wide as malar space. Antennal toruli at lower level of eye margin. Side of face with many minute punctures. Mandible large, bidentate, the ventral tooth distinctly longer than dorsal tooth.



Figs. 5-7. *Baryscapus megos* n. sp.: 5, ♀ forewing; 6, ♀ antenna; 7, ♂ antenna.

*Antenna* (Fig. 6) with scape 4.5-5.5 times as long as wide. Antenna with one anellus. Funicular segments subequal in width; F1 1.3-1.4 times, F2 1.1-1.25 times, F3 1.1-1.2 times as long as wide. Club 2.0-2.2 times as long as than wide

*Mesosoma* (Fig. 4) finely sculptured. Midlobe of mesoscutum with 6-12 adnotaular setae, these somewhat scattered and forming more than a single, straight row. Median groove on mesoscutum distinct. Scutellum 1.1-1.2 times as wide as long. Dorsellum slightly convex. Propodeum with median carina mostly eliminated; with faint paraspiracular carina. Callus with four setae.

*Forewing* (Fig. 5) with 2 setae on dorsal surface of submarginal vein. Marginal vein 0.70-0.80 times as long as costal cell, 1.75-1.85 times as long as stigmal vein.

*Gaster* 1.25-1.35 times as long as mesosoma, and 1.4-1.6 times as long as wide. Lateral sides of all tergites pubescent. Ovipositor sheaths short.

**Male.** Length 1.15-1.6 mm. Similar to female in coloration and morphological fea-

tures except in sexual characters. Scape (Fig. 7) with ventral sensory plaque 0.40–0.45 total length of scape, situated near center of scape. F1 and F2 1.1–1.2 times; F3 and F4 1.1–1.25 times as long as wide. Club 3.0–3.1 times as long as wide. Funicular segments with short, sparse setae; without a distinct basal whorl of long dark setae.

**Material examined.** Holotype ♀, USA, Arizona, Pima, Co., 4 mi. S. Robles Junction, 26.viii.1979, C. W. Melton (USNM).

59♀, 6♂ paratypes. Same data of holotype (or collected by J. LaSalle) (20♀, 2♂ USNM; 10♀1♂: UCR, BMNH, CNC; 5♀1♂ LaSalle; 4♀ IARI).

#### DISCUSSION

*Baryscapus* is the second largest genus of Tetrastichinae in the Holarctic region, with 43 North America species (LaSalle, 1994) and 57 European species (Graham, 1991). It can generally be distinguished from other tetrastichine genera by the following characters: submarginal vein with 2 to many setae on dorsal surface; at least the longest two of the cercal setae subequal in length, relatively short and often not conspicuous in their difference from the setae on the surrounding tergites of the metasoma; propodeal spiracle with entire rim exposed; body dark or metallic, without pale or yellow markings; mesosternum generally convex in front of trochantal lobe, without a distinct precoxal suture; malar sulcus often strongly curved. *Baryscapus* is included in keys to Tetrastichinae genera for Europe (Graham, 1987, as *Eutetrastichus*; 1991) and North America (LaSalle, 1994).

Within *Baryscapus*, *B. megos* is easily distinguished by the presence of a mouth opening that is three or more times as wide as the malar space. All other Holarctic species have the mouth opening less (usually distinctly less) than twice as wide as the malar space.

There are now three species of North American Tetrastichinae which have enlarged mouth openings (mouth opening three or more times as wide as malar space). Only one of these genera, *Exastichus*, was included by LaSalle (1994) in his key to North American genera. These species may be separated using the following key couplets. These would best be included in LaSalle's (1994) key at couplet 44, where *Exastichus* is distinguished.

#### KEY TO NORTH AMERICAN TETRASTICHINAE WITH ENLARGED MOUTH OPENINGS

1. Mandibles exodont (curving outwards), and not meeting medially (Fig. 1) ..... *Exastichus odontos* LaSalle  
Mandibles normal, curving inwards and when closed meeting or overlapping medially (Fig. 2) ..... 2
2. Propodeum with a raised lobe of the callus which partially overhangs spiracle. Malar sulcus straight or only slightly curved. Female antenna with 4 funicular segments (the first smaller than the second) ..... *Kocaagizus pirireisi* Doğanlar  
Propodeum with entire spiracular rim visible (Fig. 4). Malar sulcus distinctly curved (Fig. 3). Female antenna with 3 funicular segments (Fig. 6) ... *Baryscapus megos* n. sp.

#### ACKNOWLEDGMENTS

KS's visit to the UK as a Darwin Fellow was funded by the Department of the Environment, Darwin Initiative for the Survival of Species, grant no. 162/3/53. Space and facilities during



this study were kindly provided by the Department of Entomology, The Natural History Museum, London; technical assistance from the SEM and photography units of the BMNH is also gratefully acknowledged. This publication was partially funded through NSF grant BSR-9020206 (JL).

#### LITERATURE CITED

- Doğanlar, M. 1993. A new genus of Tetrastichinae from North America. *Entomofauna* 14(9): 187–191.
- Graham, M. W. R. de V. 1987. A reclassification of the European Tetrastichinae (Hymenoptera: Eulophidae), with a revision of certain genera. *Bull. Brit. Mus. (Nat. Hist.), Ent. Ser.* 55(1):1–392.
- Graham, M. W. R. de V. 1991. A reclassification of the European Tetrastichinae (Hymenoptera: Eulophidae): revision of the remaining genera. *Mem. Am. Ent. Ins.* 49:1–322.
- LaSalle, J. 1994. North American genera of Tetrastichinae (Hymenoptera: Eulophidae). *J. Nat. Hist.* 28:109–236.

Received 30 October 1994; accepted 14 July 1995.